



Volunteer Lake Assessment Program Individual Lake Reports

BAPTIST POND, SPRINGFIELD, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	1,664	Max. Depth (m):	7.5	Flushing Rate (yr ⁻¹)	3.7	Year	Trophic class	KNOWN EXOTIC SPECIES
Surface Area (Ac.):	99	Mean Depth (m):	2.4	P Retention Coef:	0.56	1980	MESOTROPHIC	
Shore Length (m):	2,900	Volume (m ³):	972,500	Elevation (ft):	1266	1996	MESOTROPHIC	

The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

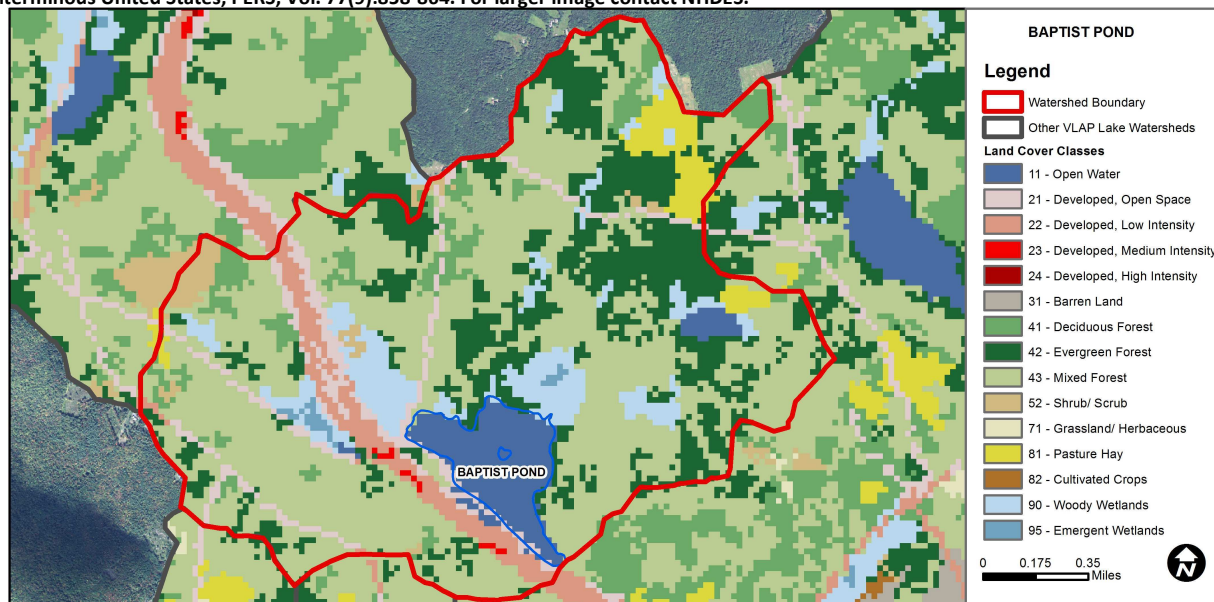
Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Slightly Bad	>/=5 samples and median is >threshold.
	pH	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	D.O. (mg/L)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	D.O. (% sat)	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	Chlorophyll-a	Slightly Bad	>5 samples and median is > threshold.
Primary Contact Recreation	E. coli	Good	Geometric means < criteria; however at least 1 exceedance of the single sample criteria occurred.
	Chlorophyll-a	Very Good	At least 10 samples with 0 exceedances of criteria.

BEACH PRIMARY CONTACT ASSESSMENT STATUS

BAPTIST POND - CAMP SUNAPEE	E. coli	Very Good	All bacteria samples <75% of geometric mean criteria, but not enough to calculate geometric mean. Or, all bacteria samples are < single sample criteria and calculated Geometric means are less than geometric mean criteria.
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WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	5.89	Barren Land	0	Grassland/Herbaceous	0
Developed-Open Space	4.96	Deciduous Forest	4.94	Pasture Hay	2.88
Developed-Low Intensity	3.73	Evergreen Forest	20.83	Cultivated Crops	0
Developed-Medium Intensity	0.2	Mixed Forest	47.11	Woody Wetlands	7.42
Developed-High Intensity	0	Shrub-Scrub	1.51	Emergent Wetlands	0.44



VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

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2013 DATA SUMMARY

OBSERVATIONS AND RECOMMENDATIONS (Refer to Table 1 and Historical Deep Spot Data Graphic)

- CHLOROPHYLL-A:** Chlorophyll levels spiked in July indicating a potential algal bloom, and field data note the presence of cyanobacteria in late August. Historical trend analysis indicates a relatively stable trend however data display moderate variability since monitoring began.
- CONDUCTIVITY/CHLORIDE:** Deep spot, Outlet and Stoney Brook Inlet conductivity were elevated likely as a result of runoff from I-89. Mcalvin tributary conductivity levels were slightly greater than the state median but much less than the other stations. Historical trend analysis indicates relatively stable epilimnetic conductivity however data are highly variable between years.
- E. COLI:** E. coli levels at Stations A and B were much less than the state standards for public beaches and surface waters.
- TOTAL PHOSPHORUS:** Deep spot phosphorus levels were average throughout the summer. Historical trend analysis indicates stable epilimnetic phosphorus with low variability between years. Phosphorus levels in Mcalvin Brook were elevated throughout the summer. This station is located below an agricultural property which likely influences phosphorus levels. Phosphorus levels decreased in the downstream Mcalvin Inlet station.
- TRANSPARENCY:** Transparency decreased slightly from 2012. Historical trend analysis indicates a stable transparency with low variability between years.
- TURBIDITY:** Turbidity levels were elevated in Mcalvin Inlet, Mcalvin Brook and Stoney Brook Inlet due to low flow conditions.
- PH:** Average pH levels are slightly less than desirable in the lake and tributaries. Historical trend analysis indicates relatively stable epilimnetic pH with moderate variability between years.
- RECOMMENDED ACTIONS:** Continue to bracket the Mcalvin tributary to assess agricultural impacts. Contact the Dept. of Agriculture for recommended best management practices to reduce agricultural runoff. The increased frequency and intensity of storm events highlights the importance of reducing stormwater runoff from lake and watershed properties, dirt/gravel roads, agriculture, and steep slopes. Educate lake and watershed residents on ways to reduce stormwater runoff from their properties. Utilize DES' Homeowners Guide to Stormwater Management.

Station Name	Table 1. 2013 Average Water Quality Data for BAPTIST POND								
	Alk.	Chlor-a	Cond.	E. Coli	Total P	Trans.		Turb.	pH
	mg/l	ug/l	uS/cm	#/100ml	ug/l	m		ntu	
						NVS	VS		
Epilimnion	6.93	6.20	126.8		11	2.16	2.62	1.33	6.36
Hypolimnion			126.4		12			1.48	6.47
Mcalvin Brook			53.1		47			2.3	6.56
Mcalvin Inlet			62.0		23			7.45	6.1
Mcalvin Pond In Lake			44.4		18			1.26	6.37
Outlet			128.8		12			1.42	6.44
Station A				17					
Station B				11					
Stoney Brook Inlet			224.4		14			2.37	6.11

NH Median Values: Median values for specific parameters generated from historic lake monitoring data.

Alkalinity: 4.9 mg/L

Chlorophyll-a: 4.58 mg/m³

Conductivity: 40.0 uS/cm

Chloride: 4 mg/L

Total Phosphorus: 12 ug/L

Transparency: 3.2 m

pH: 6.6

NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.

Chloride: < 230 mg/L (chronic)

E. coli: > 88 cts/100 mL – public beach

E. coli: > 406 cts/100 mL – surface waters

Turbidity: > 10 NTU above natural level

pH: 6.5-8.0 (unless naturally occurring)

HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation	Parameter	Trend	Explanation
pH	Stable	Trend not significant; data moderately variability.	Chlorophyll-a	Stable	Trend not significant; data moderately variable
Conductivity	Stable	Trend not significant; data highly variable	Transparency	Stable	Trend not significant; data shows low variability
			Phosphorus (epilimnion)	Stable	Trend not significant; data shows low variability

